

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-7 are canceled.

8. (original): An apparatus for measuring a dimension of a sheet member, comprising:
a light source for applying light in a wavelength range which prevents the sheet member from being fogged;
a plurality of photodetectors, having respective optical axes directed toward a feed path of the sheet member, for directly or indirectly detecting said light from said light source; and
a data processor for detecting the position of an end of said sheet member based on the luminance of said light detected by said photodetectors, and measuring a dimension of said sheet member from the detected position of the end of said sheet member.

9. (original): An apparatus according to claim 8, wherein said light applied by said light source is infrared light.

10. (original): An apparatus according to claim 8, wherein said data processor comprises:
threshold setting means for setting a threshold depending on an optical property of said sheet member; and
end detecting means for detecting the position of the end of said sheet member based on said threshold and the luminance of said light.

11. (original): An apparatus according to claim 10, wherein said photodetectors are disposed in a position to detect said light that has passed through the feed path of said sheet member, said threshold setting means comprising means for setting said threshold depending on the transmittance of said light as said optical property of said sheet member.

12. (original): An apparatus according to claim 10, wherein said data processor comprises:

dimension acquiring means for determining the dimension of said sheet member based on the position of said end detected by said end detecting means;

skew detecting means for detecting a skew of said sheet member based on the position of said end detected by said end detecting means; and

skew correcting means for correcting the dimension of said sheet member determined by said dimension acquiring means based on the skew detected by said skew detecting means.

13. (original): An apparatus according to claim 8, wherein said light source comprises an electronic flash lamp for applying said light to said sheet member as it is fed along said feed path, for a predetermined period of time.

14. (original): An apparatus according to claim 13, wherein said light source comprises infrared LEDs.

15. (original): An apparatus according to claim 9, wherein said sheet member comprises a photographic film, said infrared light having a wavelength of at least 900 nm.

16. (original): An apparatus according to claim 10, wherein said photodetectors comprise CCD cameras for two-dimensionally detecting said light, said end detecting means comprising means for determining a rate of change of luminance along a predetermined direction from a distribution of luminance levels detected by said CCD cameras, and comparing the rate of change with said threshold thereby to detect the position of the end of said sheet member.

17. (original): An apparatus according to claim 8, further comprising:
at least a pair of belt conveyors for feeding said sheet member while gripping the sheet member therebetween.

18. (withdrawn): An apparatus for marking a sheet member, comprising:
an exposure head; and
a control system connected to said exposure head for controlling said exposure head to mark a sheet member;
said exposure head having a light source comprising a plurality of white LEDs;
said control system comprising a controller and a driver;
said controller having a data storage unit for storing exposure time data, marking data, and current data for the sheet member;

said driver having an exposure time data controller, a marking data controller, and an LED driver for storing said exposure time data, said marking data, and said current data, respectively, supplied from said controller;

the arrangement being such that when said sheet member has reached a predetermined position, the exposure time data and the marking data are read from said exposure time data controller and said marking data controller, and said LED driver is energized to mark said sheet member.

19. (withdrawn): An apparatus according to claim 18, wherein said light source comprises a plurality of segments made up of linear arrays of said white LEDs, said segments being combined to substantially represent a shape of numeral "8".

20. (withdrawn): A method of marking a sheet member, comprising the steps of: determining and storing exposure time data, marking data, and current data for the sheet member;

determining a position to start marking the sheet member based on a detected signal which is generated when said sheet member has reached a predetermined position; and energizing white LEDs to mark said sheet member based on said exposure time data, said marking data, and said current data from the determined position.

21. (new): An apparatus according to claim 8, wherein said end of the sheet member is a terminal end in a longitudinal direction of the sheet member.

22. (new): An apparatus according to claim 21, wherein at least one of said plurality of photodetectors has a field of vision that overlaps the terminal end of the sheet member, and another one of said plurality of photodetectors has a field of vision that overlaps another end of the sheet member at a location distal to the terminal end.

23. (new): An apparatus according to claim 8, wherein at least two of said plurality of photodetectors are offset from each other in a widthwise direction of the sheet member.

24. (new): An apparatus according to claim 8, wherein said plurality of photodetectors provide image data which is combined.

25. (new): An apparatus according to claim 24, wherein the data processor determines said dimension based on a change of luminance of the image date which is combined.

26. (new): An apparatus according to claim 8, wherein a field of vision of one of said plurality of photodetectors includes an edge of said end which forms a width of the sheet member and a field of vision of another one of said plurality of photodetectors includes an opposite edge which forms another end of the sheet member.